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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,709	01/29/2001	Yoshimitsu Aoyagi	07898-066001 / PH-1029US	2759
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REED SMITH LLP 3110 FAIRVIEW PARK DRIVE, SUITE 1400 FALLS CHURCH, VA 22042			CHODHURY, AZIZUL Q	
			ART UNIT	PAPER NUMBER

2145

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/772,709

Applicant(s)

AOYAGI ET AL.

Examiner

Azizul Choudhury

Art Unit

2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-15 and 17-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-15 and 17-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Detailed Action***

This office action is in response to the amendment received on May 25, 2005.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2-15 and 17-33 are rejected under 35 U.S.C. 102(b) as being anticipated by George et al (US Pat No: 5,774,669), hereafter referred to as George.

1. With regards to claims 2 and 17, George teaches a method (a system is a method) of automatically recognizing a network configuration, for automatically recognizing a device configuration on a network system having a network node including at least one or more intelligent network devices each implementing network devices each implementing an SNMP agent and a management information base, the method comprising:
  - a. A first step of sending an ICMP echo request from an administrator terminal implementing an SNMP manager to individual network devices in the network node, and detecting existence and non-existence of network devices on the basis of responses therefrom; and

- b. A second step of sending to the SNMP agents in the individual network devices detected a transfer request for information stored in the management information bases of the respective network devices, and detecting the types of the network devices in the network node based on the information stored in the management information bases returned, wherein the type of network devices detected including at least an active or inactive state of a network device
- c. A third step of acquiring a set of physical addresses of network devices connected to ports of a network device from the management information base of the network device, the network device being a type of device to have a bridge function;
- d. A fourth step of acquiring information as to physical-IP address correspondence from the management information base of a network device having a routing function; and
- e. A fifth step of recognizing at an IP level the network devices connected to the ports of the network device having a bridge function, based on the acquired information as to physical-IP address correspondence

(George discloses a design that allows for node discovery (column 3, lines 64-67, George). It allows for ICMP and SNMP (column 4, lines 52-61, George). In addition, George's design (as in all network monitoring designs) allows for agents at network devices (column 18, lines 25-44, George).

These agents are used in network monitoring to allow network devices to be

detected and also to allow their information to be available (column 18, lines 25-44, George). Furthermore, the design allows for the obtaining of status information (column 4, line 30, George). Obtaining status information is equivalent to the claimed detecting existence and non-existence of network devices and active or inactive state of selected network devices. Finally, George's design has bridges and allows for address (such as IP addresses) retrieval (column 18, lines 25-44, George)).

2. With regards to claim 3, George teaches the method of automatically recognizing a network configuration, further comprising a sixth step of: recognizing that network devices from which a response to the ICMP echo request is returned are active and network devices from which no responses is returned are non-existent; and referring to the information as to physical-IP address correspondence acquired in the fourth step, and if there is correspondence information of any network device other than those recognized to be active, recognizing this network device to be inactive (George's design (as all network monitoring designs) allows for network device activity information as claimed (column 14, lines 22-43, George)).
3. With regards to claim 4, George teaches the method of automatically recognizing a network configuration, further comprising the step of checking the management information base of a network device having a bridge function or a repeater

function for stored information on inactive network devices connected to ports of the network device, and if any, detecting connections of the inactive network devices based on the stored information (Bridges and repeaters are network devices and are considered nodes. They are checked by George's design (column 18, lines 26-44, George)).

4. With regards to claim 5, George teaches the method of automatically recognizing a network configuration, further comprising the step of detecting the presence of a plurality of network devices having a bridge function, based on the contents of the management information bases of the network devices acquired at the second step, and if the presence of a plurality of them is detected, then detecting whether one of the network devices having a bridge function is connected to a particular port of a parent device with one of the other network devices having a bridge function as the parent device, and if any, then retrieving a device configuration of each connection destination of a child device with that network device as the child device, thereby recognizing port-to-port connections between the network devices having a bridge function (George's design not only allows for the retrieval of information about bridges but related information such as addresses and interfaces (hence what is attached to it) (column 18, lines 26-44, George). In addition, George discloses that a hierarchical view is produced in the design, hence all the connections between devices is obtained in George's design (column 4, lines 13-29, George)).

5. With regards to claim 6, George teaches the method of automatically recognizing a network configuration, comprising the step of obtaining a difference between a set of physical addresses of the network devices connected to ports of the parent device connected to the child device and the sum of sets of physical addresses of the network devices connected to all the ports of the child device excepting those ports connected to the parent device, thereby recognizing a network device or network devices interposed between the parent device and the child device (As stated earlier, George's design allows for a hierarchical representative of the network being monitored (column 4, lines 13-51, George). Hence, means by which to detect all the devices along with their connections as claimed exist within George's design).
6. With regards to claim 7, George teaches the method of automatically recognizing a network configuration, comprising the step of, in the cases where the presence of a plurality of devices is detected between the parent device and the child device, detecting whether these devices each have any of a routing function, a bridge function, and a repeater function, and if none, then predicting the presence of non-intelligent packet relay equipment (George's design allows for a node to be detected and determined if it is a host or a router or bridge or any other device (column 18, lines 26-44, George)).

7. With regards to claim 8, George teaches the method of automatically recognizing a network configuration, comprising the step of checking physical addresses stored in the management information bases of the parent and child devices recognized of connection, and when the physical address of the child device is not stored in the management information base of the parent device or when the physical address of the parent device is not stored in the management information base of the child device, selecting such an arbitrary device as commonly included in the sets of physical addresses of the devices connected to particular ports of the parent and child devices so that the recognition of connection between the parent and child devices is narrowed based on the connection ports of the parent and child devices to the device selected (George's design has agents at each device. In addition, the addresses of the devices are detected as claimed (column 18, lines 26-44, George)).
8. With regards to claim 9, George teaches the method of automatically recognizing a network configuration, comprising the steps of: acquiring the value of update frequency of the source physical address of a latest received frame in an arbitrary port of a network device having a repeater function, so as to recognize the number of active devices connected to that arbitrary port from the value; and, unless the value of update frequency is "0" or "1," acquiring the value of the source physical address of a latest received frame in the arbitrary port at regular time intervals, so as to recognize the physical addresses of all the network



devices connected to that arbitrary port (As stated earlier, George's design allows for network devices such as bridges to be detected (column 18, lines 25-44, George). In addition, George's design allows for devices' availability to be recognized (active or non-active) (column 14, lines 22-43, George). It is inherent that flags (the use of "1" or "0") are used in the code to enable such a feature).

9. With regards to claim 10, George teaches the method of automatically recognizing a network configuration, further comprising the step of acquiring the value of update frequency of the source physical address of a latest received frame in an arbitrary port of a network device having a repeater function at regular time intervals, and checking for a change in the value to recognize whether the network device has a repeater function (In George's design (as with most network monitors), means for automatic updates are present (column 11, lines 1-20, George)).

10. With regards to claim 11, George teaches the method of automatically recognizing a network configuration, further comprising the step of temporarily locking out an arbitrary port of a network device having a bridge function and a network device having a repeater function by using the administrator terminal, and if a network device whose connection cannot be recognized on the basis of information stored in the management information bases of the network device having a bridge function and the network device having a repeater function

responds to an ICMP echo request packet before the lockout but no longer responds after the lockout, recognizing this device to be connected to the arbitrary port (George's design has system administrators that after evaluations of the network status determine information about the network and trouble areas (column 5, lines 1-7, George)).

11. With regards to claim 12, George teaches the method of automatically recognizing a network configuration, comprising the step of collecting port-by-port statistics as to send/receive frames of a network device having a bridge function and a network device having a repeater function at regular time intervals, and if network devices whose connections cannot be recognized on the basis of information stored in the management information bases of the network device having a bridge function and the network device having a repeater function have a pair of ports to fall within a range of values of the statistics arbitrarily set by port, recognizing this pair of ports to be in connection (George's design allows for statistics to be taken of the network devices and monitor the devices sessions (connections) (column 5, lines 22-34, George)).

12. With regards to claim 13, George teaches the method of automatically recognizing a network configuration, comprising the step of collecting information stored in the management information bases of the active network devices at regular time intervals, storing the same into a storage area on the administrator

terminal, and comparing previously collected content and the currently collected contents for a difference to detect activation, suspension, modification of connection, destination, modification of IP address, and the like of the active network devices (George's design allows administrators to collect network data and save them so that trouble in the network may be detected (column 5, lines 1-17, George)).

13. With regards to claim 14, George teaches the method of automatically recognizing a network configuration, comprising the step of creating a model table of connections between devices on the basis of information as to connections between network devices, and referring to the model table to detect connection between network devices by each model of the connection between devices or by combining a plurality of models of the connections between devices (George's design has routing tables (column 3, lines 45-63, George). Other tables are also available (column 11, lines 52-65, George)).

14. With regards to claim 15, George teaches the method of automatically recognizing a network configuration comprising the step of expanding a recognized network configuration into logical chart data, creating chart data including a physical device configuration arranged on physical floor map or the like, and displaying at least one set of chart data on a display screen (George's design has hierarchical views of the network (column 4, lines 13-29, George)).

15. With regards to claim 18, George teaches a network configuration chart displaying method for rendering display on a display screen in the system for automatically recognizing a network configuration wherein, based on the connection information collected, packet relay equipment having a plurality of connection ports is displayed as a packet relay equipment object having as many connection objects as the number of connection ports, a network device such as a computer and a printer is displayed as a device object having a connection object, and the connection between the packet relay equipment and the network device is displayed as a line segment connecting the connection objects to each other (George's design has the network displayed in hierarchical view, this means that the connections between the nodes and the placement of the nodes are displayed as claimed (column 4, lines 13-29, George)).

16. With regards to claim 19, George teaches the network configuration chart displaying method wherein a connection port number is displayed near a connection object of the packet relay equipment (George's design has the network displayed in hierarchical view, this means that the connections between the nodes and the placement of the nodes are displayed (column 4, lines 13-39, George). This includes displaying information relevant to the network, such as port numbers).

17. With regards to claim 20, George teaches the network configuration chart displaying method wherein connection objects of a plurality of connection ports are classified into a plurality of sets, and connections between network devices are displayed by set of connection objects (George's design has the network displayed in hierarchical view, this means that the connections between the nodes and the placement of the nodes are displayed as claimed (column 4, lines 13-29, George)).
18. With regards to claim 21, George teaches the network configuration chart displaying method wherein when the packet relay equipment object displayed is selected, a distribution object corresponding to the packet relay equipment object is displayed (In addition to having various views of the networks, George's design allows for specific nodes to be selected to obtain further information (column 12, line 39 – column 13, line 51, George)).
19. With regards to claim 22, George teaches the network configuration chart displaying method wherein a connection object and an ID object for specifying a connection object connected thereto are displayed instead of a line segment establishing a link between the connection objects (George's design allows for a variety of network views, including line segments and connection statistics (column 11, line 53 – column 13, line 51, George)).

20. With regards to claim 23, George teaches the network configuration chart displaying method wherein a figure of a connection object is displayed in a figure of the packet relay equipment object (When a network view is used in George's design, it uses a figure is used as claimed per object (column 12, line 39 – column 13, line 51, George)).
21. With regards to claim 24, George teaches the network configuration displaying method wherein depending on the position of devices connected to the packet relay equipment having a plurality of connection ports, connection objects are displayed on any sides of the figure of the packet relay equipment object (George's design has means by which to display the network (with its nodes and connections and relevant information) in a variety of views (column 12, line 39 – column 13, line 51, George)).
22. With regards to claim 25, George teaches the network configuration chart displaying method wherein a plurality of network devices connected to the packet relay equipment having a plurality of connection ports are grouped together and displayed as a group object (George's design has means by which to display the network (with its nodes and connections and relevant information) in a variety of views (column 12, line 39 – column 13, line 51, George)).

23. With regards to claim 26, George teaches the network configuration chart displaying method wherein when the group object is selected, device objects representing devices belonging to the group are expanded and displayed in corresponding positions (George's design has means by which to display the network (with its nodes and connections and relevant information) in a variety of views (column 12, line 39 – column 13, line 51, George)).

24. With regards to claim 27, George teaches the network configuration chart displaying method wherein upon a selection operation to the group object, a list of device objects representing devices belonging to the group is displayed on-screen, device objects representing devices selected from the list are exclusively expanded and displayed in corresponding positions, and the devices displayed are removed from the group object (George's design has means by which to display the network (with its nodes and connections and relevant information) in a variety of views (column 12, line 39 – column 13, line 51, George)).

25. With regards to claim 28, George teaches the network configuration chart displayed method wherein as many connection objects as the number of connection ports are displayed on a concentric circle around the figure of the equipment object, in the order of port numbers (George's design has means by which to display the network (with its nodes and connections and relevant

information) in a variety of views (column 12, line 39 – column 13, line 51, George)).

26. With regards to claim 29, George teaches the network configuration chart displaying method wherein if the packet relay equipment object corresponding to the packet relay equipment concerned is displayed on an edge of a display window on-screen and if a device object connected thereto lies outside the display window as well, then a scroll button is displayed near the packet relay equipment object, inside the figure of the object, or on a distribution object connected to the packet relay equipment object (The claimed feature is inherent. Most programs use "windowing" where scrolls are used to view items that are on the viewing page but out of the scope of the window dimensions).

27. With regards to claim 30, George teaches the network configuration chart displaying method wherein upon a select operation to the packet relay equipment object, the packet relay equipment object and a device object connected to the packet relay equipment object are arranged and displayed at the screen center (The claimed feature is an inherent feature. Most programs use "windowing" and an image/item that does fit within the window, is allowed to be centered within the window).



28. With regards to claim 31, George teaches the network configuration chart displaying method wherein network devices are displayed on different layers depending on their types of locations (George's design allows for different layers to be viewed (column 12, line 39 – column 13, line 51, George)).
29. With regards to claim 32, George teaches the network configuration chart displaying method wherein: a layer display button is displayed near the packet relay equipment object corresponding to the packet relay equipment concerned or on the figure of the object; and upon a layer select operation from this layer display button, a device object that is connected to the packet relay equipment concerned and lies on another layer is displayed (George's design allows for different layers to be viewed. His design also allows for different views of the network (column 12, line 39 – column 13, line 51, George). Since the means are present, the claimed button to switch between views inherently must be present).
30. With regards to claim 33, George teaches the network configuration chart displaying method wherein: a layer structure is provided to display an on-floor device configuration and an underfloor distribution arrangement separately; and upon a select operation to any position on a layer for displaying the on-floor device configuration, part of distribution in the vicinity of the corresponding position on a layer for displaying the underfloor distribution arrangement is also displayed on the layer for displaying the on-floor device configuration if

displayable distribution exists in the vicinity of the corresponding position  
(George's design allows for a variety of views including topology and subnets  
(column 12, line 39 – column 13, line 51, George)).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over George et al (US Pat No: 5,774,669) in view of Dev et al (US Pat No: 6049828), hereafter referred to as George and Dev, respectively.

31. With regards to claim 34, George teaches through Dev, a network configuration chart displaying system for displaying onto a display screen a network configuration chart showing connections of network devices connected to a network via packet relay equipment, the system comprising: connection information collecting means for collecting connection information of network devices such as a computer and a printer connected to the network, and storing the same into a connection table; and connection display means for displaying packet relay equipment having a plurality of connection ports as a packet relay

equipment object having as many connection objects as the number of connection ports, displaying a network device such as a computer and a printer as a device object having a connection object, and displaying the connection between the packet relay equipment and the network device as a line segment connecting the connection objects to each other, on the basis of the connection information collected, wherein the collected connection information includes at least port information of the network device, existence or non-existence of a selected network device and an active or inactive state of the selected network device

(George's design allows for tables to hold network information as claimed (column 11, line 52 – column 12, line 38, George). In addition, George's design has means by which to display the network (with its nodes and connection) in a variety of views (column 12, line 39 – column 13, line 51, George). Furthermore, the design allows for the obtaining of status information (column 4, line 30, George). Obtaining status information is equivalent to the claimed detecting existence and non-existence of network devices and active or inactive state of selected network devices. While the detection of port information is known to exist in the art, it is not disclosed within the George disclosure.

Dev also teaches a network monitoring design. Within the design, it is disclosed how it is possible for such a system to obtain port status information (claim 10, Dev).

Both George and Dev disclose designs within the network monitoring design. While the detection of port information is known to exist in the art, it is not taught within the George disclosure. Such a feature however is disclosed within the Dev prior art. Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of George with those of Dev, for managing a network comprising interrelated network entities including communicating network entities and at least one non-communicating network entity (column 2, lines 39-42, Dev)).

### ***Response to Remarks***

The amendment received on April 20, 2005 has been reviewed but is not deemed fully persuasive. The examiner appreciates the effort taken by the applicant and their representative to overcome the 112 rejection. In response, the 112 rejection has been withdrawn. The examiner also notes the explanation provided within the remarks describing the applicant's design. While such an explanation is appreciated, the examiner would simply like to remind the applicant's representative that it is the claimed invention that is in contention. With that said, one issue that seems to be addressed continuously in the remarks is the issue of recognizing devices connected to ports of other devices. When a device is attached to another device through a port, it is networked. And network monitoring/management designs that are able to detect/discover devices/nodes, have such means inherently present. This is especially true in designs with SNMP such as George's design. Furthermore, figure 3b even

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states that the design "listens for network addresses" within item 43 of the flowchart.

This is equivalent to detecting ports in a network.

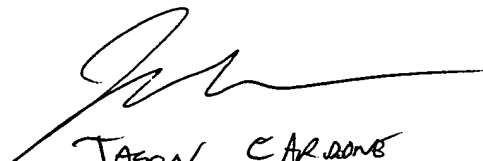
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Azizul Choudhury whose telephone number is (571) 272-3909. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Martin-Wallace can be reached on (571) 272-6159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AC

  
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PRIMARY EX 2145